NORTH PACIFIC OCEAN

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The condition of unusually high atmospheric pressure which prevailed over the Aleutian Islands and the Bering Sea during July and August, continued through the greater part of September. Although the averages of the barometric readings at St. Paul and at Dutch Harbor were no higher than 29.99 and 29.95 inches, respectively, their plus departures from the normal were considerable, as shown in the table. The Aleutian LOW was central at or near Kodiak, where the average pressure for the month was 29.76 inches, but comparatively low barometer prevailed thence south-southwestward into the Tropics. Midway Island, generally in the high-pressure belt in September, now had an average reading of 29.92 inches, which was 0.15 inch below the normal. Thus, nearly north and south in midocean, lay an unusual cyclonic belt, with anticyclonic regions on either side—on the one hand stretching nearly to the American coast; and on the other, to about the one hundred and fifty-fifth meridian of east longitude.

The accompanying table gives the principal barometric data for several island and coast stations in west longitudes, including Point Barrow on the Arctic Ocean.

TABLE 1.—*Averages, departures, and extremes of atmospheric pressure at sea level at indicated hours, North Pacific Ocean and adjacent waters, September, 1930*

Stations	Average pressure	Departure from normal	Highest	Date	Lowest	Date
	Inches	*Inch*	*Inches*		*Inches*	
Point Barrow [1] [3]	29.98		30.44	25th	29.40	29th.[6]
Dutch Harbor [2] [3]	29.95	+0.19	30.40	25th	29.18	5th.
St. Paul [2] [3]	29.99	+0.29	30.42	2d	29.58	8th.
Kodiak [3]	29.76	+0.06	30.18	5th	29.26	25th.
Midway Island [2] [3]	29.92	−0.15	30.14	7th	29.53	2d.
Honolulu [4]	29.96	−0.04	30.04	11th	29.85	19th.
Juneau [4]	29.91	−0.01	30.31	6th	29.14	26th.
Tatoosh Island [4] [5]	29.99	−0.02	30.18	19th	29.64	23d.
San Francisco [4] [5]	29.96	+0.02	30.16	25th	29.78	6th.
San Diego [4] [5]	29.93	+0.05	30.09	25th	29.77	27th.

[1] For 26 days.
[2] For 29 days.
[3] P. m. observations only.
[4] A. m. and p. m. observations.
[5] Corrected to 24-hour mean.
[6] Also on 30th.

The mid-Pacific trough of low pressure was the scene of considerable storm activity, and here during the early part of the month occurred one of the severest September storms for the region in recent years. The cyclone was probably of tropical origin, with the initial disturbance occurring very close to the one hundred and eightieth meridian. It was first experienced on September 1 some 300 or 400 miles south-southwest of Midway Island, where the American steamer *Steel Scientist* ran into its moderate southerly gales, with barometer even at that time depressed to 29.56 inches. On the 2d, just north of Midway, the storm had perhaps already developed hurricane intensity, since the steamer *President Harrison* steamed at 11 a. m. into a full northeast storm wind, barometer at 29.05, in 29° 14′ N., 177° 50′ W. By the 3d the cyclone was central at about 40° N., 170° W. Late in that day several vessels entered the outer storm region, where they met with strong to whole gales. But it was not until the 4th that the great fury of the cyclone was actually encountered. On this day and on the 5th hurricane velocities were engaged with over an extensive area south of the central and eastern Aleutians. The minimum barometer reading reported was 28.12 inches, read on board the steamer *Iwatesan Maru* in 45° N., 168° W., at 7 a. m. of the 4th. The storm entered the Bering Sea on the 5th and thereafter lost energy, becoming a shallow depression which was lost in the Arctic Ocean on the 7th.

The second progressive mid-ocean cyclone of the month probably developed north of Midway Island on the 15th or 16th, and on the latter date moderate to fresh northerly gales were reported in the vicinity. The storm moved at first with great rapidity toward the northeast, but on the 17th curved into north with lessened speed. During the 18th and 19th it crossed the western part of the Gulf of Alaska, causing fresh to whole gales on the 18th along more than a thousand miles of the upper trans-Pacific steamer route. After entering Alaska, the disturbance turned rapidly eastward into the Canadian Northwest.

From the 24th until the end of September disturbed weather prevailed over the Gulf of Alaska, and fresh to strong gales were experienced on the 26th to 29th in the waters between Sitka and Valdez, and fresh to whole gales on the 25th to 27th over the southern part of the Gulf.

Generally quiet weather prevailed for a long distance west of the coast of the United States, and few extratropical gales were reported as occurring between the western Aleutians and Japan.

The weather was unusually serene for the month in tropical American waters. A brief gale of force 9 from the east-southeast, experienced during a severe thunder squall off the coast between Acapulco and Manzanillo on the 26th, and a moderate south gale in the lower part of the Bay of Panama on the 2d, were the only gale winds reported.

At least one violent typhoon occurred in the Asiatic Tropics. It was first noted east of Guam, traveling westward, on the 3d. On the 7th, after curving through north into northeast, it arrived east of the Ogasawara Islands considerably intensified. It then moved northward again and on the 8th and 9th was central at some distance east of Hondo. On these dates it was unquestionably a violent typhoon, but on the 8th, specifically, reporting vessels experienced its storm to hurricane velocities over a region 600 or 700 miles in diameter, with the western gale region closely approaching the central Japanese coast. On the 10th and 11th the typhoon continued into upper latitudes east of the Kuril Islands, and was there lost to observation.

From the standpoint of windiness, the weather at Honolulu was of little interest. The prevailing wind was from the east and the maximum velocity was 23 miles an hour from the same direction on the 23d. The month, however, was one of the warmest in more than 50 years, and was the rainiest September since records began at the station in 1877.

September showed a considerable areal restriction of fog over that of June to August. The summer band of fogginess stretching across the northern waters of the Pacific was now broken into three distinct regions of occurrence—one reaching from northern Japan and the Kuril Islands eastward to about 170° east longitude; another stretching from the eastern Aleutians and the central part of the Gulf of Alaska southward nearly to the fortieth parallel; and the third, along the American coastal region from Vancouver Island to Lower California. In the Asiatic subdivision the heaviest occurrence in a given place had dwindled from 50 per cent in August to 20 per cent of the days in September, and along the California coast it had lessened from about 50 to about 25 per cent. Only along the upper steamer routes between about 45° and 52° N., 145° and 160° W., was there indicated a practically unchanged condition of formation over that of August, with 10 to 25 per cent of days on which fog occurred.